

JASON DANIEL HOFGARTNER – CURRICULUM VITAE

Jet Propulsion Laboratory, 4800 Oak Grove Dr., MS 183-401, Pasadena, CA 91109
Jason.D.Hofgartner@jpl.nasa.gov
818-354-0260

EDUCATION

Ph.D.	2016
Cornell University, Astronomy	
Thesis Title: Dynamic Phenomena in the Lakes and Seas of Titan	
Thesis Advisor: Jonathan I. Lunine	
Thesis Co-Advisor: Alexander G. Hayes	
Minor in Earth and Atmospheric Sciences	
M. S.	2014
Cornell University, Astronomy	
B. S.	2011
University of Waterloo, Physics, Honours, Co-operative Program	
Astrophysics Specialization, French Language I Certificate	
Research Report: The Ewald Technique in Confined Geometrics	
Research Report: Spin Ice Physics in Confined Geometrics	

ACADEMIC AWARDS AND FELLOWSHIPS

NASA Postdoctoral Program Fellow, Jet Propulsion Laboratory	2016 - 2017
Cranson and Edna B. Shelley Graduate Research Award, Cornell University	2015
American Geophysical Union Outstanding Student Paper Award	2014
Natural Sciences and Engineering Research Council of Canada	
Post Graduate Scholarship Doctoral	2012 - 2015
Post Graduate Scholarship Master's	2011 - 2012
Ontario Graduate Scholarship (declined in favor of Cornell University)	2011
University of Waterloo	
Helen Sawyer Hogg Scholarship in Astronomy	2011
Ian R. Dagg Memorial Scholarship	2010
President's Research Award	2010
Mike Lazaridis Scholarship in Theoretical Physics	2010
J.W Leech Physics Book Prize	2009
C.C. Lim Physics Book Prize	2008
President's International Experience Award	2007
Don E. Brodie Scholarship in Science	2007
President's Scholarship of Distinction	2006

MISSION EXPERIENCE

Cassini Solstice Mission
Cassini Radar Science Team

Associate Team Member	2015 - present
Contribute to observation planning and analysis	2013 - present
Present at Project Science Group Meetings	2013 - present
Participate in weekly teleconferences	2013 - present
Presented at Project Science Group Meeting, Plenary Session, [Invited]	2013
Presented at Project Science Group Meeting, Titan Working Group Session, [Invited]	2013
Planetary Science Summer School, Jet Propulsion Laboratory	Aug. 2015

PROFESSIONAL EMPLOYMENT EXPERIENCE

Mike Lazaridis Physics Research Assistant	May – Aug. 2010
Perimeter Institute, Waterloo, Canada	
Studied and examined Standard and Inflationary Cosmology	
Calculated the probability of slow-roll inflation using different measures	
Report: Probability of Slow-roll Inflation from the Canonical Measure	
Physics Research Assistant	Sep. – Dec. 2009
SNOLAB, Sudbury, Canada	
Operated DEAP-1 detector, responsible for calibration and data acquisition	
Analyzed DEAP-1 data set and verified Pulse-shape Discrimination	
Report: Evaluation of Pulse-shape Discrimination with the DEAP-1 Dark Matter Detector at SNOLAB	
Geophysical Data Processor	Sep. 2008 – Apr. 2009
Sander Geophysics, Ottawa, Canada and United Arab Emirates	
Operated geophysical equipment and responsible for data quality control	
Assisted with field logistics and crew management	
Processed geophysical data sets, including aeromagnetic, position and terrain data	
Prepared geophysical survey plans, including drape surfaces	
Report: Analyzing Repeatability in Airborne Magnetic Geophysics using Accidental Re-flight Data	
Report: Determining the Most Accurate Method to Differentially Locate Reference Stations	
Junior Project Officer	Jan. – Apr. 2008
Health Canada, Ottawa, Canada	
Updated and maintained Canadian Pesticide Risk Indicator	
Performed Principal Components Analysis on Canadian Pesticide Risk Indicator	
Report: Principal Components Analysis of the Canadian Pesticide Risk Indicator Environmental Module	

ACADEMIC TEACHING EXPERIENCE

Cornell University, Astronomy	
Guest Lecturer (9X)	Fall 2012 – Fall 2015
Lead Teaching Assistant, Our Solar System - Astronomy 1102/1104	Spring 2013
Teaching Assistant, The Nature of the Universe - Astronomy 1101/1103	Fall 2012

FIRST AUTHOR PUBLICATIONS

J. D. Hofgartner, A. G. Hayes, J. I. Lunine, H. Zebker, R. D. Lorenz, M. J. Malaska, M. Mastrogiovanni, C. Notarnicola, J. M. Soderblom, Titan's Magic Islands: Transient Features in a Hydrocarbon Sea, *submitted to Icarus*

J. D. Hofgartner, A. G. Hayes, J. I. Lunine, H. Zebker, B. W. Stiles, C. Sotin, J. W. Barnes, E. P. Turtle, K. H. Baines, R. H. Brown, B. J. Buratti, R. N. Clark, P. Encrassaz, R. D. Kirk, A. Le Gall, R. M. Lopes, R. D. Lorenz, M. J. Malaska, K. L. Mitchell, P. D. Nicholson, P. Paillou, J. Radabaugh, S. D. Wall, C. Wood, The discovery of transient features in a Titan sea, *Nature Geoscience*, **7**, 493-496, 2014

J. D. Hofgartner, J. I. Lunine, Does ice float in Titan's lakes and seas? *Icarus*, **223**, 628-631, 2013

CO-AUTHOR PUBLICATIONS

M. Mastrogiovanni, V. Poggiali, R. Seu, J. Lunine, **J. D. Hofgartner**, Radar Sounding Using Cassini Altimeter: Waveform Modeling and Monte Carlo approach for Data Inversion of Observations of Titan Liquid Bodies, *submitted to IEEE*

O. Mousis, J. I. Lunine, A. G. Hayes, **J. D. Hofgartner**, The fate of ethane in Titan's hydrocarbon lakes and seas, *in press in Icarus*

M.G. Boulay, B. Cai, M. Chen, E. O'Dwyer, V.V. Golovko, P. Harvey, R. Mathew, M. Kuzniak, J.J. Lidgard, A.B. McDonald, P. Pasuthip, T. Pollman, T. Sonley, P. Skensved, K. Graham, C. Ouellet, B. Beltran, P. Gorel, A.L. Hallin, K. Olsen, D.N. McKinsey, W.H. Lippincott, J. Nikkel, C.J. Jillings, F. Duncan, B. Cleveland, **J. Hofgartner**, I. Lawson, C. Nantais, E. Vazquez-Jauregi, Measurement of the scintillation time spectra and pulse-shape discrimination of low-energy beta and nuclear recoils in liquid argon with DEAP-1, *submitted to Astroparticle Physics*

M. Akashi-Ronquest, P.-A. Amaudruz, M. Batygov, B. Beltran, M. Bodmer, M.G. Boulay, B. Broerman, B. Buck, A. Butcher, B. Cai, T. Caldwell, M. Chen, Y. Chen, B. Cleveland, K. Coakley, K. Dering, F.A. Duncan, J.A. Formaggio, R. Gagnon, D. Gastler, F. Giuliani, M. Gold, V.V. Golovko, P. Gorel, K. Graham, E. Grace, N. Guerrero, V. Guiseppe, A.L. Hallin, P. Harvey, C. Hearns, R. Henning, A. Hime, **J. Hofgartner**, S. Jaditz, C.J. Jillings, C. Kachulis, E. Kearns, J. Kelsey, J.R. Klein, M. Kuzniak, A. LaTorre, I. Lawson, O. Li, J.J. Lidgard, P. Liimatainen, S. Linden, K. McFarlane, D.N. McKinsey, S. MacMullin, A. Mastbaum, R. Mathew, A.B. McDonald, D.-M. Mei, J. Monroe, A. Muir, C. Nantais, K. Nicolics, J.A. Nikkel, T. Noble, E. O'Dwyer, K. Olsen, G.D. Orebi Gann, C. Ouellet, K. Palladino, P. Pasuthip, G. Perumpilly, T. Pollmann, P. Rau, F. Retiere, K. Rielage, R. Schnee, S. Seibert, P. Skensved, T. Sonley, E. Vazquez-Jauregui, L. Veloce, J. Walding, B. Wang, J. Wang, M. Ward, C. Zhang, Improving Photoelectron Counting and Particle Identification in Scintillation Detectors with Bayesian Techniques, *submitted to Astroparticle Physics*

SEMINARS

University of Western Ontario, Centre for Planetary Science and Exploration Forum	Dec. 2015
Southwest Research Institute, Space Science and Engineering Division Colloquium	Jul. 2015
Rockland Astronomy Club, Annual Dinner Lecture	Mar. 2015
Cornell University, Astronomy Department Colloquium	Feb. 2015
Colgate University, Physics and Astronomy Department Colloquium	Nov. 2014
Jet Propulsion Laboratory, Planetary Science Colloquium	Aug. 2013

CONFERENCE ABSTRACTS AND PRESENTATIONS

J. D. Hofgartner, B. J. Buratti, R. H. Brown, J. W. Barnes, C. Sotin, K. Lawrence, Erosion of Titan's Craters from Cassini RADAR and VIMS Imagery, *Lunar and Planetary Science Conference*, The Woodlands TX, Mar. 2016

J. D. Hofgartner, A. G. Hayes, J. I. Lunine, H. Zebker, B. W. Stiles, C. Sotin, J. W. Barnes, E. P. Turtle, K. H. Baines, R. H. Brown, B. J. Buratti, R. N. Clark, P. Encrenaz, R. D. Kirk, A. Le Gall, R. M. Lopes, R. D. Lorenz, M. J. Malaska, K. L. Mitchell, P. D. Nicholson, P. Paillou, J. Radebaugh, S. D. Wall, C. Wood, Titan's Hydrologic Cycle: Transient Events and Magic Islands, *Lakefest*, Ithaca, NY, July 2015

J. D. Hofgartner, A. G. Hayes, J. I. Lunine, H. Zebker, B. W. Stiles, C. Sotin, J. W. Barnes, E. P. Turtle, K. H. Baines, R. H. Brown, B. J. Buratti, R. N. Clark, P. Encrenaz, R. D. Kirk, A. Le Gall, R. M. Lopes, R. D. Lorenz, M. J. Malaska, K. L. Mitchell, P. D. Nicholson, P. Paillou, J. Radebaugh, S. D. Wall, C. Wood, Observing Dynamic Processes in Titan's Surface Liquids, *Rencontres du Vietnam, Planetary Systems: A Synergistic View*, Quy Nhon, Vietnam, July 2015

J. D. Hofgartner, A. G. Hayes, J. I. Lunine, H. Zebker, B. W. Stiles, C. Sotin, J. W. Barnes, E. P. Turtle, K. H. Baines, R. H. Brown, B. J. Buratti, R. N. Clark, P. Encrenaz, R. D. Kirk, A. Le Gall, R. M. Lopes, R. D. Lorenz, M. J. Malaska, K. L. Mitchell, P. D. Nicholson, P. Paillou, J. Radebaugh, S. D. Wall, C. Wood, TITAN'S MAGIC ISLAND: TRANSIENT FEATURES IN A TITAN SEA, *Lunar and Planetary Science Conference*, The Woodlands TX, Mar. 2015

J. D. Hofgartner, A. G. Hayes, J. I. Lunine, H. Zebker, B. W. Stiles, C. Sotin, J. W. Barnes, E. P. Turtle, K. H. Baines, R. H. Brown, B. J. Buratti, R. N. Clark, P. Encrenaz, R. D. Kirk, A. Le Gall, R. M. Lopes, R. D. Lorenz, M. J. Malaska, K. L. Mitchell, P. D. Nicholson, P. Paillou, J. Radebaugh, S. D. Wall, C. Wood, Titan's Magic Island: Transient features in a Titan sea, *American Geophysical Union, San Francisco CA*, Dec. 2014 [Invited]

J. D. Hofgartner, D. B. Campbell, A. G. Hayes, J. I. Lunine, Specular Reflections from Titan's Equatorial Region: Solving the Decade Old Mystery, *American Geophysical Union, San Francisco CA*, Dec. 2014

J. D. Hofgartner, A. G. Hayes, J. I. Lunine, H. Zebker, B. W. Stiles, C. Sotin, J. W. Barnes, E. P. Turtle, K. H. Baines, R. H. Brown, B. J. Buratti, R. N. Clark, P. Encrenaz, R. D. Kirk, A. Le Gall, R. M. Lopes, R. D. Lorenz, M. J. Malaska, K. L. Mitchell, P. D. Nicholson, P. Paillou, J. Radebaugh, S. D. Wall, C. Wood, The Magic of Summer: Transient Features in Titan's Seas, *Titan Surface Workshop*, Ithaca NY, Sept. 2014

J. D. Hofgartner, A. G. Hayes, J. I. Lunine, H. Zebker, B. W. Stiles, C. Sotin, J. W. Barnes, E. P. Turtle, K. H. Baines, R. H. Brown, B. J. Buratti, R. N. Clark, P. Encrenaz, R. D. Kirk, A. Le Gall, R. M. Lopes, R. D. Lorenz, M. J. Malaska, K. L. Mitchell, P. D. Nicholson, P. Paillou, J. Radebaugh, S. D. Wall, C. Wood, THE CASE OF TITAN'S MYSTERIOUS NEW ISLAND: ANALYSIS OF ANOMALOUSLY BRIGHT FEATURES OBSERVED IN THE CASSINI T92 SAR PASS OVER TITAN'S LIGEIA MARE, *Lunar and Planetary Science Conference*, The Woodlands TX, Mar. 2014

J. D. Hofgartner and J. I. Lunine, TITAN'S METHANE CYCLE IS CLOSED, *American Geophysical Union*, San Francisco CA, Dec. 2013

J. D. Hofgartner, A. G. Hayes, J. I. Lunine, H. Zebker, B. W. Stiles, C. Sotin, J. W. Barnes, E. P. Turtle, K. H. Baines, R. H. Brown, B. J. Buratti, R. N. Clark, P. Encrenaz, R. D. Kirk, A. Le Gall, R. M. Lopes, R. D. Lorenz, M. J. Malaska, K. L. Mitchell, P. D. Nicholson, P. Paillou, J. Radebaugh, S. D. Wall, C. Wood, The case of Titan's mysterious new island: An analysis of an anomalously bright feature observed in the T92 SAR pass over Ligeia Mare, *American Geophysical Union*, San Francisco CA, Dec. 2013

J. D. Hofgartner and J. I. Lunine, Hydration and Dehydration of Titan's Core and Implications for the Surface, *Titan Surface Workshop*, Boston MA, Aug. 2013

PROFESSIONAL SERVICE

Referee, Icarus	2015
Leveler, NASA Review Panel	2015
Referee, Journal of Geophysical Research – Planets	2014
Workshop Co-organizer, Titan Surface Workshop, Ithaca NY	Sep. 2014
Executive Secretary, NASA Review Panel	2014
Seminar Organizer, Cornell Planetary Lunch Seminars	Fall 2011 – Spring 2013
Journal Club Organizer, SNOLAB Particle Astrophysics Journal Club	Fall 2009

SELECTED PUBLIC OUTREACH AND PRESS ACTIVITIES

WHCU Radio Tech Minute Interview: First look at Pluto yields new discoveries	Dec. 2015
Jet Propulsion Laboratory press release of Cassini T104 observations of Titan's Magic Island	Sep. 2014
Significant press coverage including many mainstream media outlets	
Nature Geoscience press release of <i>The discovery of transient features in a Titan sea</i>	Jun. 2014
Featured in more than 60 news articles and several radio broadcasts	
Ranked first in metric for online attention of all Nature Geoscience articles of a similar age	
In the 99 th percentile in metric for online attention of more than 109,000 tracked articles of a similar age in all journals	
Master of Ceremonies, Ask an Astronomer Live	Jun. 2014
Speaker, Friends of Astronomy	Nov. 2013
Cassini press release of <i>Does ice float in Titan's lakes and seas?</i>	Jan. 2013
Panelist, Ask an Astronomer Live	Nov. 2012

ADDITIONAL QUALIFICATIONS

French (conversational)	
Black belt in Okinawan Goju-Ryu	2011
Open Water Scuba Diver – Professional Association of Diving Instructors	2009
Standard First Aid, CPR-C, and AED certified	